

CLAIMS

1. An ink composition for detecting an oxidizing gas,
comprising at least one selected from the group consisting
5 of azo dye, methine dye, triarylmethane dye and thiazine dye.

2. The ink composition for detecting an oxidizing gas
according to claim 1, which further comprises a cationic
surfactant.

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3. The ink composition for detecting an oxidizing gas
according to claim 2, wherein the cationic surfactant is at
least one selected from the group consisting of an alkyl
trimethyl ammonium salt, isoquinolinium salt, imidazolinium
15 salt and pyridinium salt.

4. The ink composition for detecting an oxidizing gas
according to claim 1, which further comprises at least one
selected from the group consisting of extender and resin binder.

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5. The ink composition for detecting an oxidizing gas
according to claim 1, which further comprises at least one
type of colorant which does not change color in an oxidizing
gas atmosphere.

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6. The ink composition for detecting an oxidizing gas

according to claim 1, which further comprises an anthraquinone dye as a dye.

7. An oxidizing gas detection indicator, comprising a color
5 changing layer formed of the ink composition according to claim 1.

8. The oxidizing gas detection indicator according to claim
7, which further comprises a non-color changing layer which
10 does not change color in an oxidizing gas atmosphere.

9. An ink composition for detecting hydrogen peroxide
plasma sterilization, comprising: 1) at least one selected
from the group consisting of azo dye, methine dye and
15 anthraquinone dye, 2) a nitrogen-containing polymer, and 3)
a cationic surfactant.

10. The ink composition according to claim 9, wherein all
or a portion of the nitrogen-containing polymer is a polyamide
20 resin.

11. The ink composition according to claim 10, wherein
the polyamide resin is a reaction product of a dimer of linoleic
acid and a di- or polyamine.

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12. The ink composition according to claim 9, wherein the

cationic surfactant is at least one selected from the group consisting of an alkyl trimethyl ammonium salt, isoquinolinium salt, imidazolinium salt and pyridinium salt.

5 13. The ink composition according to claim 9, which further comprises at least one selected from the group consisting of extender and resin binder.

10 14. The ink composition according to claim 13, wherein all or a portion of the resin binder is a cellulose resin.

15 15. The ink composition according to claim 13, wherein all or a portion of the extender is silica.

15 16. The ink composition according to claim 9, wherein the content of the nitrogen-containing polymer is 1 to 20% by weight of the ink composition.

20 17. The ink composition according to claim 9, which further comprises at least one type of colorant which does not change color in a plasma sterilization treatment atmosphere.

25 18. The ink composition according to claim 9, which further comprises at least one type of component which changes color by reacting with hydrogen peroxide.

19. The ink composition according to claim 18, wherein the component which changes color by reacting with hydrogen peroxide contains ammonium aurintricarboxylate.

5 20. The ink composition according to claim 9, which further comprises at least one type of organic amine.

21. An indicator for detecting hydrogen peroxide plasma sterilization, comprising a color changing layer formed of
10 the ink composition according to claim 9.

22. The indicator according to claim 21, which has a plurality of cracks in the surface of the color changing layer.

15 23. The indicator according to claim 21, which further comprises a non-color changing layer which does not change color in a plasma sterilization treatment atmosphere.

24. The indicator according to claim 21, which further
20 comprises a colored layer which changes color in a hydrogen peroxide atmosphere.

25. The indicator according to claim 24, wherein the colored layer and the color changing layer are formed so as
25 to be mutually overlapping.

26. The indicator according to claim 25, wherein the colored layer and the color changing layer are formed in a linear or spotted pattern so as not to be mutually overlapping.

5 27. A pouch for hydrogen peroxide plasma sterilization provided with the indicator according to claim 21 on an inner surface of a gas-permeable pouch.

10 28. The pouch according to claim 27, which is provided with a transparent window in a portion of the pouch so as to allow visual confirmation of the indicator from the outside.

15 29. The pouch according to claim 27, wherein the gas-permeable pouch is formed from polyethylene fibers.

30. A hydrogen peroxide plasma sterilization treatment method, comprising the steps of loading a treated material into the pouch according to claim 21, sealing the pouch with the treated material loaded therein, and placing the pouch
20 in a hydrogen peroxide plasma sterilization atmosphere.

31. The method according to claim 30, wherein the pouch is placed in the hydrogen peroxide plasma sterilization atmosphere until the color changing layer of the indicator
25 changes color.

32. A method for confirming hydrogen peroxide plasma sterilization treatment, comprising the steps of loading a treated material into the pouch according to claim 21, sealing the pouch with the treated material sealed therein, placing
5 the pouch in a hydrogen peroxide plasma sterilization atmosphere, and confirming a color difference in the indicator of the pouch.